

Data Sheet

DISPAX-REACTOR® DR 2000/50

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The DISPAX-REACTOR® DR 2000 is a three-stage high shear inline dispersing machine used for the production of very fine emulsions and suspensions. Shear force that occur in the working chamber produce a drastic increase of mass transfer and accelerate the dissolving rates of mono and macromolecular substances. Three rotor-stator combinations (generators) in a series ensure small-droplet or particle size and a very narrow distribution spectrum. This process promotes a long stability of mixtures in a single pass, especially when working with emulsions.

The DISPAX-REACTOR® inline machine uses shear principles similar to the popular ULTRA-TURRAX® machines UTC and UTL. Minimized volume in the mixing chamber ensures uniform shear on the product.

For discontinuous processes, the inline machine DR can be installed with a batch tank or reactor containing the pre-mixed product. When the mixture passes through the dispersing machine, it is homogenized optimally.

For continuous processes, the components to be mixed are fed into the machine at an appropriate rate through the inlet connections. Here, the components are thoroughly mixed, dispersed or homogenized within the machine, and then discharged through the outlet.

In order to configure the DISPAX_REACTOR® DR to meet a variety of application needs, IKA offers a wide selection of generators. The standard rotor-stator (generator) combination consists of a coarse, medium and fine rotor-stator. When installed in a series, this configuration ensures satisfactory particle size reduction while providing optimum dispersing results in a single pass.

The high shear dispersion machine DISPAX-REACTOR® DR 2000 is available in eight sizes. The possible throughput varies from 10 up to 550 gpm when using water. All sizes of machines work with the same circumferential speed of the rotor which provides a reliable scale-up.

Advantages of the DISPAX-REACTOR® DR 2000 machine:

- Robust design, which is synonymous with long service life
- Improved dispersing performance
- Different dispersing tools to customize the grinding shear rates
- Simple speed adjustment by use of belt drive
- Easy scale-up of processes developed with the laboratory machine DR to production machines DR
- High-value seal with wear-resistant materials
- High quality surface finishes
- Machine is self-draining, CIP and SIP capable
- All wetted parts are made of 316L stainless steel
- Other materials and finishes are available upon request
- Capable of operating under pressure up to 16 bar
- Low noise levels
- 3A-Sanitary conformed and certified
- Pharmaceutical execution available upon request
- Explosion protected execution available

IKA engineers and application experts are available to assist you with selection of machine type, execution and dispersing tools as well installation into existing process systems or extension to the new production plants.



Technical Data

Flow rate (max)	550 gpm
Motor power	200 Hp
Motor speed	1,800 rpm
Tip speed	23 m/s
Speed regulation possible	Yes
Dispersing tools	Variable
Single mechanical seal	Yes
Double mechanical seal	Yes
Ex-proof possible	Yes
Process pressure (max)	16 bar
Process Temp. (max)	160° C
Cleaning	Yes, CIP
Sterilization	Yes, SIP
Inlet	8"
Outlet	6"
Ident. No.	DR 2000/50

